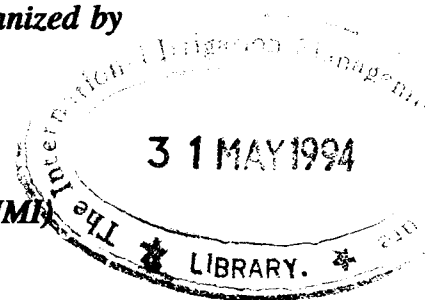


# Gender and irrigation in Pakistan: some considerations for donor assisted projects.

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## 1. Introduction

In 1992, a preliminary study was commissioned by the Pakistan Office of the International Irrigation Management Institute (IIMI) to explore the role of women in irrigated agriculture and irrigation management. The study was carried out by Kanchan Basnet in one of IIMI's research areas; the command areas of Gugera Branch Canal in the Lower Chenab Canal in Punjab's Rechna Doab. The aim of this study was to provide IIMI with some pointers as to where and how gender matters in irrigation and irrigation management. This in turn was expected to facilitate the integration of gender considerations in future projects to be carried out by IIMI.

In this short paper some of the main findings of this study will be presented and an attempt will be made to draw some preliminary conclusions on how gender could be incorporated in donor assisted irrigation projects in Pakistan. Given the very limited scope of the study, and the lack of reliable other sources on gender and irrigated agriculture in Pakistan, the validity of the statements in this paper may be limited. The author intends to make a first and modest contribution towards bridging the gap between engineers and gender specialists, by raising some questions about the necessity, feasibility and the possible outcomes of gender-sensitive irrigation planning and implementation in Pakistan.

## 2. Beyond the Chadar and the Chardiwari

The study reveals a division of labor in irrigated agriculture which is related to gender as well as class. The preferred situation for women, as expressed by women themselves as well as by their husbands and male relatives, is to remain for 24 hours of the day behind the four walls of the house. The strict observation of purdah is a sign of prosperity and high status of households. The reality is that only very few households can afford not to use the labor of women. In the survey, 76 of the 87 women interviewed (87%) were directly involved in field based activities. While the remaining 13% of the women were not to be seen in the fields, they indirectly contributed to the cultivation of irrigated agriculture. They were involved in cooking for hired laborers; supervision of laborers and also in the cleaning, processing and storing of the harvest.

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Probably because of the fact that livestock rearing activities take place behind the four walls of the house, livestock is much more easily recognized and admitted as a female occupation than field work. On average, women are estimated to spend 30-40% of their daily time in livestock management. Animals are raised for draft power and organic manure, and thus form an integral part of the farming system. The sale of surplus livestock products (like milk, ghee and eggs) often provides women with some cash money, which they themselves control.

In field activities there is a marked gender division of tasks in the cultivation of wheat and rice, the major staple food crops. Male activities are concentrated in the early stages of crop production, while women are predominant in harvesting and post-harvesting activities. Vegetables like peas and pepper can be considered 'female' crops on two grounds. First, women are highly involved in all stages of the cultivation of these crops, and second women tend to give a higher priority to growing these crops because of their importance in the family diet.

Except for being engaged in the cultivation of their own crops, both women and men are engaged in various forms of exchange labor. Especially women were noted to form labor exchange groups, through which they mutually assist each other in carrying out the agricultural activities. Also, both male and female family members may be engaged in wage labor. Sometimes a whole family takes up a job on contract basis. Male family members are sometimes engaged in off-farm activities for wages.

A specific female task is gleaning of cotton and wheat after the harvest. Women of poor households ask landowners for permission to collect the left-overs from the harvest. Depending on the attitude of the landlords, women have to pay nothing or a certain portion to him.

The application of water to the field is very much considered a male responsibility, supposedly because of the physical strength required to perform this task. Many women in the sample were offended when asked about their involvement in irrigation activities. Despite of this, eight women in the sample were part-time or full-time irrigators, because of the absence of able-bodied male members in their families. Some of these women also engaged in maintenance activities. Female irrigators reported that they found it difficult to irrigate at night, because of their restricted social mobility at night. When a water turn was at night, they asked someone to accompany them.

An important irrigation related problem in this area is salinity. Saline irrigation water decreases yields, and eventually render entire plots unsuitable for cultivation. Women are very well aware of the salinity problem, as well as of the used practices to reclaim affected parts of the land. Usually men are involved in carrying out these reclamation practices. Salinity problems occur especially in the tail-end reaches of the distributaries, where households rely for their irrigation on groundwater. Groundwater is of a much poorer quality than surface water. Since vegetables, the 'female' crop, are extremely sensitive to salinity, in highly affected areas these are no longer cultivated. Women of small-landholding households also reported a decrease in their workload because of salinity: less harvesting and storing needed to be done because of the reduced yields. Also, plastering of the houses now requires more time, since it is more difficult to find clay of a suitable quality. More important is that reduced yields also mean reduced incomes. Some households reported that now, most or all of their cash income is obtained through the sale of milk, ghee and eggs.

Although not explicitly studied here, it may be that decreased possibilities for profitable crop production due to salinity lead male household members to migrate in search of employment elsewhere. A problem related to salinity, which was also not looked into in this study, is the decreased quality and availability of water used for domestic purposes. At a conference organized by the Aurat Foundation in Lahore, rural women from all over Pakistan identified the limited availability and poor quality of water as their most important problem.

Despite of the high involvement of women in irrigated crop production, especially those of small landholding families, women never participate in any sort of village level decision making regarding irrigation. At household level, many decisions about the cultivation of crops are taken jointly by men and women, though men often have a greater say. Marketing of agricultural commodities is restricted to men, except for the rare cases where buyers come to the house.

In general, women seem to have very little access to resources and information. Very few women control land, and they have very limited access to credit. 86% of the women interviewed had never seen or spoken to agricultural extension staff.

### **3. Identification of gender needs with respect to irrigation**

The study shows that many women are directly or indirectly involved in irrigated crop production. There are also some indications that women are affected differently than men by changes in the availability and quality of water. The often held assumption (based on the fact that the processes of acquiring, allocating, distributing and applying water are male affairs) that women are not particularly interested or affected by irrigation is thus challenged. In this section, an attempt will be made to identify more specifically the gender needs that may be of importance for irrigation planning and management. The next and last section will present a brief discussion on realistic possibilities of meeting some of these needs.

Theoretically a first possible, and probably the most important, potential source of difference between women and men relates to the way an irrigation system's performance relates to their personal welfare. In the specific situation of Pakistan, it can generally be expected that women's well-being is closely tied to the prosperity of the household collectivity. Purdah norms, property rights and familial hierarchies coalesce within the household to produce a corporately organized, patriarchal collectivity. Men control most of the household's material resources, including the labor of female and junior members, and also mediate women's relations to the outside world. Women are socially constructed as passive and vulnerable, dependent upon male protection and provision for their survival. They can be expected to be reluctant to seek incomes outside the socially sanctioned relationships of family and kin, first because there are few options to do so and second because they could forfeit the support of their kin. Women's long-term interests may best be served by subordinating their own needs to those of the dominant male members of the household. Since women have very constrained access to material resources outside the familial domain, it is in their interest to try to maximize their security with kinship networks.

Class differences will often override differences that can be attributed to gender. Women belonging to well-to-do households are mostly involved in cooking for laborers and the care of livestock. Women from households with smaller landholdings are more directly involved in field work and may thus have an interest in reducing the amount of their labor required, whereas women of landless households who depend (partly) on wage labor for their subsistence benefit when female labor demand is high. The identification of specific gender needs in Pakistan should therefore be related to a broader analysis, which identifies both the interests and needs that women may have in common, as well as those that may be conflictual. Which weight should be attached to the specific needs of each category of men and women depends on the objectives one wants to achieve, but in general it can be expected that it will be difficult to come up with one single strategy which will be beneficial for everybody.

In Pakistan, women can be expected to benefit, although not necessarily to the same extent, from increased household income gained and controlled by male household heads. Still, there may be differences between women and men in evaluating the outputs of irrigation systems. Women may, for instance, have a greater preference for growing vegetables than men do, and thus for allocating more resources and labor to the cultivation of these crops. In the Pakistani context, however, conflicts of interests between men and women with respect to the allocation of labor and resources to the cultivation of irrigated crops will often not be very articulated and open.

Women can be expected to be more articulate about specific needs they may have that more directly relate to their domain. As women at the Women Peasant Conference brought forward, they are specifically affected by and concerned about the decreasing availability and quality of water, both for irrigation purposes as well as for domestic use. Changes in the availability of irrigation water may indirectly affect the quality and availability of water used for other purposes. Seepage from canals may raise the water table, and unless soil conditions are such as to increase salinity in drinking water wells, usually the effect can be expected to be positive in that it replenishes groundwater used for domestic purposes. On the other hand, the lowering of the water table through tube wells and the consequent drying up of drinking water wells is likely to increase the time women need to fetch water. Reduced soil moisture due to lower ground water tables may also affect the growth of non-irrigated crops and trees, which may be of particular relevance to women given their tasks as livestock managers (fodder) and fuel providers (fuel wood).

More direct, but also probably non-articulated, needs of women with respect to irrigation relate to the gender division of tasks. Water can sometimes replace labor, for example in the task of weeding. A greater water depth will first of all reduce weed growth, and it will also soften the soil which makes the task of weeding easier.

Both male and female irrigators will have a clear preference for irrigating during day time, but for women night irrigation is particularly awkward given their restricted social mobility at night. Given their many other duties within the household, female irrigators may have clear preferences with respect to the time of the day during which to irrigate.

#### **4. What is the scope for meeting gender needs in irrigation projects?**

To meet identified gender needs in irrigation projects, areas of congruence between the objectives of the irrigation project and those of women need to be found. Irrigation projects usually hold the triple objective of 1) increasing agricultural production; 2) reducing poverty and 3) reducing economic inequality. These objectives are broad and imply attention to gender. The practice of irrigation projects, however, is that most -if not all- attention focusses on acquiring, allocating and distributing water. The linkages between (improved) water delivery, agricultural outputs and improved livelihoods are often assumed, rather than empirically tested. It is, in other words, simply taken for granted that better water deliveries will lead to broader objectives of development almost automatically.

A related problem is that irrigation interventions are often identified to solve technical problems related to water shortages. While it is increasingly accepted that technical solutions need to suit the socio-economic and institutional environment, still very often it is implicit in irrigation interventions that people and institutions need to be 'adapted' so as to suit the requirements for optimal use of the technology, rather than vice versa. Professionals dealing with irrigation are mostly engineers, Moreover, they are predominantly male, which in the Pakistani context implies that communication between them and farmers will occur through the male members of households.

It does not need any further mention that this tradition of irrigation planning and development does not facilitate attempts to adequately address and recognize gender needs which directly relate to changes in water deliveries. Even though within a donor assisted project there may be some scope for redressing this tradition towards a more people oriented approach, often the viability and sustainability of projects will depend for a large extent on the ability and willingness of national counterpart agencies and organizations, whose room for manoeuvre and change will be much smaller. Notwithstanding good donor intentions, it is important to realize that the institutional environment within which irrigation projects are implemented will determine (and often restrict) the possibilities for innovative approaches.

On the other hand, the IIMI study in Pakistan clearly reveals that irrigation may not be the most appropriate 'entry point' for addressing specific needs women may have. Both women and men see irrigation very much as a male affair. Hence, it can be expected that it is very difficult to address and mobilize women around irrigation matters. It is likewise very unlikely that changes in water deliveries, as brought about by irrigation projects, offer much potential for improving existing gender inequities.

All this is not to argue that irrigation projects should all together forget about gender. There are serious limitations, however, in what an irrigation project can achieve in terms of meeting identified practical and more strategic gender needs. Expected outputs and objectives should therefore be formulated modestly and pragmatically in order to be realistic and achievable.

In irrigation projects, attempts to comply with Women and Development requirements of donors have often resulted in small-scale and isolated projects alongside the 'mainstream' projects. These often have hardly any linkage with this 'mainstream' project. Most experiences with these projects have not been very successful, mainly because they lacked institutional support and also because the existing productive tasks of women, and their importance to the cultivation of the main irrigated crops were not acknowledged.

A number of very practical and direct linkages of changes in water availability and specific needs women may have are suggested in the second section of this paper. There may be more. Those direct water-related needs of women are easy to identify, and very often also not too difficult to meet within the narrow framework of an irrigation project. While these needs may be of a very direct importance to women, they are often of a very practical nature. Meeting these needs cannot be expected to contribute in any significant way to women's empowerment.

If irrigation projects in Pakistan are to contribute to enhancing the autonomy of women, the best strategy would probably be to formulate and implement irrigation interventions in a broader 'integrated rural development' kind of framework, which offers scope for addressing men's and women's roles in the various productive and reproductive activities they are engaged in. Activities which are more readily identified by women themselves as belonging to the female domain, like for example livestock management, will probably offer greater potential for change, since they can build upon existing sources of female control and power.